

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-50. (Cancelled)

51. (New) A diffraction-based assay device for detecting the presence of an analyte, the device comprising:

a substrate that comprises a polymer film and an optional metal coating, wherein a binder is present on the substrate in a pattern;

a fluidic guide that is in direct communication with the substrate, wherein the fluidic guide includes at least one channel through which a fluid test sample is capable of flowing via capillary action;

a wicking agent that is capable of receiving the fluid test sample from the fluidic guide and thereafter facilitating contact of the fluid sample with the binder on the substrate; and

an electromagnetic radiation source that is configured to direct electromagnetic radiation to the substrate for generating a diffraction pattern.

52. (New) The diffraction-based device of claim 51, wherein the electromagnetic radiation is capable of passing through the fluidic guide to the substrate.

53. (New) The diffraction-based device of claim 51, wherein the device further comprises an opening that permits the passage of the electromagnetic radiation to the substrate.

54. (New) The diffraction-based device of claim 51, wherein the wicking agent defines an opening through which the electromagnetic radiation is capable of passing.

55. (New) The diffraction-based device of claim 51, wherein a second binder is also present on the substrate.

56. (New) The diffraction-based device of claim 51, wherein the channel includes an interior passage defined between a first opening and a second opening, the first opening being capable of receiving the fluid sample.

57. (New) The diffraction-based device of claim 56, wherein the first opening is beveled.

58. (New) The diffraction-based device of claim 51, wherein the fluidic guide is generally linear.

59. (New) The diffraction-based device of claim 51, wherein the fluidic guide has one or more turns or branches.

60. (New) The diffraction-based device of claim 51, wherein the fluidic guide is positioned generally perpendicular to the substrate.

61. (New) The diffraction-based device of claim 51, wherein the fluidic guide is in communication with a well, the well initially receiving the fluid sample.

62. (New) The diffraction-based device of claim 51, wherein the fluidic guide is positioned directly adjacent to the wicking agent.

63. (New) The diffraction-based device of claim 51, wherein the substrate comprises the metal coating.

64. (New) The diffraction-based device of claim 51, wherein the fluidic guide contains a material that has an affinity for the fluid sample that is greater than the affinity of the fluid sample to the source from which the sample is obtained.

65. (New) The diffraction-based device of claim 51, further comprising a detector for detecting the diffraction pattern.

66. (New) The diffraction-based device of claim 51, wherein the diffraction pattern is generated only upon exposure of the substrate to the analyte.

67. (New) The diffraction-based device of claim 51, wherein the polymer film is generally transparent to the electromagnetic radiation.